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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,884	03/25/2002	Matthew John Baker	0380-P02752USO	1979

110 7590 03/05/2004

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1601 MARKET STREET
SUITE 2400
PHILADELPHIA, PA 19103-2307

EXAMINER	
SISSON, BRADLEY L	
ART UNIT	**PAPER NUMBER**
1634	

DATE MAILED: 03/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/980,884	BAKER, MATTHEW JOHN	
	Examiner	Art Unit	
	Bradley L. Sisson	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Acknowledgement is made of applicant response of 27 October 2003 wherein applicant elected the invention of Group I, claims 1-25 and 32, with traverse. In view of the subsequent filing of an amendment to the claims, the claims are now so linked by a special technical feature as to have unity of invention. Accordingly, claims 1-32 have been rejoined for purposes of examination.

Specification

2. The use of the trademark TWEEN 20 has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner, which might adversely affect their validity as trademarks.

3. The disclosure is objected to because of the following informalities: The specification has been found to contain numerous misspellings and inconsistent capitalization. In particular, attention is directed to page 9 where the figures are identified as "Fig." while at page10 they are referred to as "fig." Applicant is urged to adopt the "Fig."

4. At page 10, line 28, there appears: "In us the tip..." Perhaps applicant had intended --In use...--.

5. At page 10, last paragraph, two different parts of the same drawing (an aerosol plug and a plug of absorbent material) are being identified by the same element number (16).

Appropriate correction is required.

Claim Objections

6. Claim 18 is objected to because of the following informalities: in line two there appears the clause "wherein te beads are." Perhaps applicant had intended to write --wherein the beads are--. Appropriate correction is required.

7. Claim 27 is objected to because of the following informalities: In line 1 there appears "fo." Perhaps applicant had intended to use "of.". Appropriate correction is required.

8. A series of singular dependent claims is permissible in which a dependent claim refers to a preceding claim which, in turn, refers to another preceding claim.

9. A claim, which depends from a dependent claim, should not be separated by any claim that does not also depend from said dependent claim. In the present case, claim 32, which depends from claim 8, and ultimately from claim 1, is separated from said claim 1 by independent claims 25, 26, and 31. It should be kept in mind that a dependent claim may refer to any preceding independent claim. See MPEP § 608.01(n).

Claim Rejections - 35 USC § 112

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 1-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Attention is directed to the decision of *Vas-Cath Inc. v. Mahurkar* 19 USPQ2d 1111 (CAFC, 1991):

> This court in *Wilder* (and the CCPA before it) clearly recognized, and we hereby reaffirm, that 35 USC 112, first paragraph, requires a "written description of the invention" which is separate and distinct from the enablement requirement. The purpose of the "written description" requirement is broader than to merely explain how to "make and use"; the "applicant must also convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the "written description" inquiry, *whatever is now claimed.*

For convenience, claims 1, 25, 26, and 31, the only independent claims, are reproduced below.

1. (currently amended) A method for extracting nucleic acid from a liquid mixture containing nucleic acid, the method ~~employing (a)~~ comprising providing a container having a first and second end and containing ~~comprising~~ a solid phase capable of binding nucleic acid and a reversible suction means connected to one of said ends; and (b) operating said reversible suction means ~~for drawing~~ to draw the liquid mixture through ~~over~~ the solid phase in one direction and forcing the liquid mixture over the solid phase in the reverse direction, ~~the method comprising reversibly drawing the liquid mixture over the solid phase~~so that nucleic acid in the sample binds to the solid phase.

25. (original) A method for extracting nucleic acid from a liquid mixture containing nucleic acid, the method employing (a) a container comprising an electrode capable of binding nucleic acid and (b) reversible suction means for drawing the liquid mixture over the solid phase, the method comprising reversibly drawing the liquid mixture over the electrode so that nucleic acid in the sample binds to the electrode surface.

26. (currently amended) An extraction device for extracting nucleic acid from a liquid mixture containing nucleic acid, the device comprising (a) a container having first and second ends and containing a solid phase capable of binding nucleic acid and (b) reversible suction means which is connected to one of said ends and operates to draw the liquid mixture through said solid phase in one direction and force said liquid through said solid phase in the reverse direction, thereby causing said liquid mixture to pass up and down through said solid phase~~for drawing the liquid mixture over the solid phase~~.

31. (original) An extraction device for simultaneously extracting nucleic acids from two or more liquid mixtures containing nucleic acids, comprising (a) two or more containers each containing a solid phase capable of binding nucleic acid and (b) reversible suction means which may be applied simultaneously to each container to reversibly draw a liquid mixture over the solid phase.

12. For purposes of examination, the claimed method has been interpreted as encompassing the extraction of any and all nucleic acids from any liquid mixture where said "liquid mixture" can be a slurry of any viscosity and can contain organic and inorganic molecules at any concentration and wherein the nucleic acids can be within tissue derived from any source, including viruses, bacteria, plants, and/or animal tissue (including bone).

13. Unless specifically limited, the container has been interpreted as being of any shape and capacity; the porous beads and associated pores can be of any diameter; the "by-pass channel" (claim 23) can be of virtually any length and dimension, including pores of a singe bead.

14. A review of the disclosure finds 15 examples.

- Example 1, page 11; nuclei, not DNA or RNA, are isolated onto beads;
- Example 2, pages 11, nuclei not nucleic acids, are isolated onto beads, with nuclei being subsequently subjected to boiling alkaline detergent treatment and elution of DNA;
- Example 3, page 12; alkaline lysis preparation of an unidentified plasmid sample was applied to beads at pH 5 and eluted at pH 9.
- Example 4, page 12, nuclei were isolated from whole blood cells
- Example 5, "Purification of buccal cell DNA," pages 12-13;
- Example 6, capture of nuclei of blood cells on beads that are subsequently lysed and DNA captured on "porous disc;"
- Example 7, page 13, "Removal and purification of human IgG from serum;"
- Example 8, page 14, "Purification of specific white blood cell types from whole blood;"
- Example 9, page 14, "Recombinant protein purification;"
- Example 10, page 14, "Extraction of HIV RNA from serum;"
- Example 11, page 14, "Purification of PCR reactions;"
- Example 12, pages 14-15, "Extraction of RNA from Liver;"
- Example 13, "Isolation of mRNA" using COOH polystyrene beads coupled to oligo-dT 30 5' NH_2;

- Example 14, page 15, "Streptavidin immobilized on solid-phase" used to capture biotinylated primers and PCR product;
- Example 15, pages 15-16, "Use of electrodes, static charge, induction, electrophoresis to isolate DNA or RNA" (12 V DC battery used to capture nuclei or DNA on surface of dialysis tubing).

Of the above examples, Examples 1-6 and 10-15 are relevant to the claimed invention. As seen therein, none of the examples describes the application of untreated sample to beads whereby DNA or RNA is isolated without performance of an extraction step. Further, no description is provided as to the extraction of DNA or RNA from an organic sample, e.g., crude oil, or from bone or any plant material. The specification does provide a description of extracting DNA from blood samples. While an example does describe the extraction of plasmids, there is no clear indication as to what type of sample was being used. While one may assert that it would be obvious to one of skill in the relevant art to modify or adapt the disclosure so to isolate nucleic acids from other sources, obviousness cannot be relied upon for satisfaction of the written description requirement of 35 USC 112, first paragraph. It would appear that applicant is attempting to satisfy the written description requirement of 35 USC 112, first paragraph, through obviousness. In support of this position, attention is directed to the decision in *University of California v. Eli Lilly and Co.* (Fed. Cir. 1997) 43 USPQ2d at 1405, citing *Lockwood v. American Airlines Inc.* (Fed. Cir. 1997) 41 USPQ2d at 1966:

> Recently, we held that a description which renders obvious a claimed invention is not sufficient to satisfy the written description requirement of that invention.

15. To the extent that the claims encompass pores of any dimension (e.g., claim 20), a review of the disclosure fails to locate an adequate written description of such embodiments. Rather, page 5 of the disclosure provides support for pores that range from 1 micron to 150 microns. A review of the disclosure fails to locate an adequate written description of pores of some other dimension.

16. To the extent that the claims encompass an extraction device that comprises a by-pass channel, page 8 of the disclosure teaches that the channel is a tube used with glass beads smaller than 100 microns that have a pore diameter of 20 microns or greater. A review of the disclosure fails to find an adequate written description of alternative embodiments. Accordingly, the specification does not reasonably suggest that applicant, at the time of filing, had possession of alternative embodiments of a by-pass channel. Further, the specification does not reasonably suggest that even when used, not more than one by-pass channel is to be present.

17. As presently worded, claim 22 fairly encompasses membranes of any pore size, thickness, composition, and having any amount of its surface area cut away in the form of "sections." A review of the disclosure fails to find an adequate written description of where the pore size is to range from 1 to 200 microns (page 7). A review of the disclosure fails to find an adequate written description of the materials used to fabricate the membrane. Similarly missing is an adequate written description of the size and shape of the sections that can be removed yet the membrane remains functional.

18. For the above reasons, and in the absence of convincing evidence to the contrary, the method and device of claims 1-32 has been rejected under 35 USC 112, first paragraph, as failing to comply with the written description requirement.

19. Claims 1-25 and 32 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the isolation of DNA and RNA from a human serum sample wherein said sample has been treated so to release DNA from isolated nuclei prior to the nucleic acid being bound by porous beads, does not reasonably provide enablement for the isolation of any nucleic acid from any sample wherein any device is used. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. As set forth in *Enzo Biochem Inc., v. Calgene, Inc.* (CAFC, 1999) 52 USPQ2d at 1135, bridging to 1136:

> To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.' " *Genentech, Inc. v. Novo Nordisk, A/S*, 108 F.3d 1361, 1365, 42 USPQ2d 1001, 1004 (Fed. Cir. 1997) (quoting *In re Wright*, 999 F.2d 1557, 1561, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993)). Whether claims are sufficiently enabled by a disclosure in a specification is determined as of the date that the patent application was first filed, see *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986).... We have held that a patent specification complies with the statute even if a "reasonable" amount of routine experimentation is required in order to practice a claimed invention, but that such experimentation must not be "undue." See, *e.g.*, *Wands*, 858 F.2d at 736-37, 8 USPQ2d at 1404 ("Enablement is not precluded by the necessity for some experimentation . . . However, experimentation needed to practice the invention must not be undue experimentation. The key word is 'undue,' not 'experimentation.' ") (footnotes, citations, and internal quotation marks omitted). In *In re Wands*, we set forth a number of factors which a court may consider in determining whether a disclosure would require undue experimentation. These factors were set forth as follows: (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims. *Id.* at 737, 8 USPQ2d at 1404. We have also noted that all of the factors need not be reviewed when determining whether a disclosure is enabling. See *Amgen, Inc. v. Chugai Pharm. Co., Ltd.*, 927 F.2d 1200, 1213, 18 USPQ2d 1016, 1027 (Fed. Cir. 1991) (noting that the *Wands* factors "are illustrative, not mandatory. What is relevant depends on the facts.").

20. As presently worded, the porous media, be it in the form of beads or membrane, need not be capable of selectively binding any contaminating material, and it can also be designed such that any protein or flocculent would be first collected on a surface when the sample is withdrawn into the chamber or device. Using Figure 2 as an example, the crude sample could be withdrawn into the cartridge (**8**). If nucleic acids were immobilized within the cartridge, with large contaminants being trapped on the lower aspect of the cartridge, reversal of fluid flow (specification at page 10) so to elute the nucleic acid would also result in the elution of the contaminants.

21. In accordance with Claim 25, one is to isolate nucleic acids through their becoming bound to an electrode. A review of the disclosure fails to locate a reproducible procedure whereby nucleic acids are bound and eluted through the use of an electrode.

22. A review f the disclosure fails to find a reproducible procedure whereby DNA or RNA from mitochondria is isolated.

The situation at hand is analogous to that in *Genentech v. Novo Nordisk A/S* 42 USPQ2d 1001. As set forth in the decision of the Court:

> " '[T]o be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation.' *In re Wright* 999 F.2d 1557, 1561, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993); *see also Amgen Inc. v. Chugai Pharms. Co.*, 927 F. 2d 1200, 1212, 18 USPQ2d 1016, 1026 (Fed Cir. 1991); *In re Fisher*, 427 F. 2d 833, 166 USPQ 18, 24 (CCPA 1970) ('[T]he scope of the claims must bear a reasonable correlation to the scope of enablement provided by the specification to persons of ordinary skill in the art.').
>
> *****
>
> "Patent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable. *See Brenner v. Manson*, 383 U.S. 519, 536, 148 USPQ 689, 696 (1966) (starting, in

> context of the utility requirement, that 'a patent is not a hunting license. It is not a reward for the search, but compensation for its successful conclusion.') Tossing out the mere germ of an idea does not constitute enabling disclosure. While every aspect of a generic claim certainly need not have been carried out by an inventor, or exemplified in the specification, reasonable detail must be provided in order to enable members of the public to understand and carry out the invention. "It is true . . . that a specification need not disclose what is well known in the art. *See, e.g., Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1385, 231 USPQ 81, 94 (Fed. Cir. 1986). However, that general, oft-repeated statement is merely a rule of supplementation, not a substitute for a basic enabling disclosure. It means that the omission of minor details does not cause a specification to fail to meet the enablement requirement. However, when there is no disclosure of any specific starting material or any of the conditions under which a process can be carried out, undue experimentation is required; there is a failure to meet the enablement requirement that cannot be rectified by asserting that all the disclosure related to the process is within the skill of the art. It is the specification, not the knowledge of one skill in the art, that must supply the novel aspects of an invention in order to constitute adequate enablement. This specification provides only a starting point, a direction for further research. (emphasis added)

23. It is well settled that one cannot enable that which they do not yet possess. As noted above, the claims fairly encompass vast areas yet the specification as originally filed provides an adequate written description of but a limited area. Such limited disclosure does not reasonably suggest that applicant, at the time of filing, had possession of the genus now claimed. In view of the breadth of the claims and the limited supporting written description and the operational limitations made of record, applicant is urged to consider narrowing the claims' scope to those embodiments adequately supported by the disclosure.

24. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

25. Claims 30 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 30 is indefinite with respect to what constitutes an "aerosol plug."

Claim Rejections - 35 USC § 102/103

26. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

27. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

28. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

29. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

30. Claims 1-24 and 26-32 re rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gibco BRL Products and Reference Guide (Gibco, 1997, pages 19-41 to 19-44).

31. Gibco offers for sale a variety of devices for use in isolation of DNA and RNA. As seen therein, the devices can comprise beads within a chamber of a cartridge. In the case of "MessageMaker™ mRNA Isolation System" the device contains "a novel filter-syringe format for rapid oligo(dT) cellulose isolation of mRNA." The filter-syringe format is advertised as being suitable for cells or tissue.

32. "GlassMAX® RNA Microisolation Spin Cartridge System" (page 19-42) is described as also being useful in the isolation of RNA from cells and tissue, and that the RNA can be sued in PCR reactions.

33. "GlassMAX® DNA Isolation Systems" (page 19-43) is described as allowing for the purification of "linear double-stranded, single-stranded, or supercoiled plasmid DNA from organics, proteins, and agarose." The DNA binds to a silica matrix or membrane and is subsequently eluted.

34. "GlassMAX® DNA Isolation Matrix System" (page 19-44) discloses yet another format for the isolation of nucleic acids from a sample.

In view of the prior art teachings, the products of Gibco anticipate the inventions of claims 1-24 and 26-32. In the event that the products of Gibco do not anticipate the claimed invention, the claimed invention would have been obvious to one of ordinary skill in the art at the time the invention was made as Gibco teach numerous formats that comprise beads, and membrane, both syringe-filter format as well as a spin cartridge. Should Gibco not teach specific volumes or pore sizes, such would not render the claimed invention non-obvious as such limitations are considered to be the result of routine optimization. It is well settled that routine optimization is not patentable, even if it results in significant improvements over the prior art. In support of this position, attention is directed to the decision in *In re Aller, Lacey, and Hall*, 105 USPQ 233 (CCPA 1955):

> Normally, it is to be expected that a change in temperature, or in concentration, or in both, would be an unpatentable modification. Under some circumstances, however, changes such as these may impart patentability to a process if the particular ranges claimed produce a new and unexpected result which is different in kind and not merely in degree from the results of the prior art. In re Dreyfus, 22 C.C.P.A. (Patents) 830, 73 F.2d 931, 24 USPQ 52; In re Waite et al., 35 C.C.P.A. (Patents) 1117, 168 F.2d 104, 77 USPQ 586. Such ranges are termed "critical" ranges, and the applicant has the burden of proving such criticality. In re Swenson et al., 30 C.C.P.A. (Patents) 809, 132 F.2d 1020, 56 USPQ 372; In re Scherl, 33 C.C.P.A. (Patents) 1193, 156 F.2d 72, 70 USPQ 204. However, even though applicant's modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art. In re Sola, 22 C.C.P.A. (Patents) 1313, 77 F.2d 627, 25 USPQ 433; In re Normann et al., 32 C.C.P.A. (Patents) 1248, 150 F.2d 708, 66 USPQ 308; In re Irmscher, 32 C.C.P.A. (Patents) 1259, 150 F.2d 705, 66 USPQ 314. More particularly, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Swain et al., 33 C.C.P.A. (Patents) 1250, 156 F.2d 239, 70 USPQ 412; Minnesota Mining and Mfg. Co. v. Coe, 69 App. D.C. 217, 99 F.2d 986, 38 USPQ 213; Allen et al. v. Coe, 77 App. D. C. 324, 135 F.2d 11, 57 USPQ 136. (Emphasis added)

35. For the above reasons, and in the absence of convincing evidence to the contrary, claims 1-24 and 26-32 are rejected under 35 USC 102(b), or alternatively under 35 USC 103(a) as being taught or reasonably suggested by the prior art.

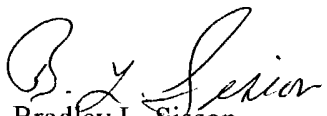
Conclusion

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley L. Sisson whose telephone number is (571) 272-0751. The examiner can normally be reached on 6:30 a.m. to 5 p.m., Monday through Thursday.

37. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (571) 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

38. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Bradley L. Sisson
Primary Examiner
Art Unit 1634

BLS
02 March 2003